

Claims

1. Process for determination of a water content material, in particular organic carbon content and/or nitrogen, in which an aqueous sample is evaporated and combusted in at least one heating vessel equipped with a heating facility and the combustion product is fed in a transport gas flow to a detector for determination of the concentration of a gaseous compound of the water content material, characterised in that calibration is performed with a predetermined amount of a calibration gas which contains a predetermined concentration of the element corresponding to the water content material, in particular carbon and/or nitrogen.
2. Process according to Claim 1, characterised in that a calibration gas with a predetermined CO₂ content is used to determine the amount of organic carbon (TOC) in measured samples.
3. Process according to Claim 1 or 2, characterised in that a predetermined volume of the calibration gas is set by filling a reservoir, in particular a section of hose, with a known volume under atmospheric pressure or with pressure compensation, which the flow of transport gas flows through after filling with the calibration gas.
4. Process according to one of the preceding claims, characterised in that, within the scope of a calibration procedure, calibration gas is fed several times into the combustion vessel several times, each time including recording of the water content material in the detector.
5. Process according to one of the preceding claims, characterised in that the range under a measured signal peak on the detector is integrated and scaled to the predetermined content of the element in the calibration gas.
6. Process according to Claim 5, characterised in that a predetermined correction factor is used for scaling.
7. Process according to one of Claims 4 to 6, characterised in that calibration takes place in several steps with a large number of different calibration gases

containing different predetermined amounts of the element to be detected.

8. Arrangement for realisation of the process according to one of the preceding claims, with a measured sample feeding unit, a heating vessel, a transport gas source, a detector unit arranged at the outlet end of the heating vessel and a flow path linking the inlet end of the heating vessel to the transport gas source, to which the measured sample feeding unit is or can be connected and locked, characterised in that at least one calibration gas reservoir is integrated or is to be integrated into the flow path of the transport gas flow.
9. Arrangement according to claim 8, characterised in that at least one gas cylinder containing the calibration gas, in particular a calibration gas with a predetermined CO₂ concentration, is connected in a lockable fashion to the flow path of the transport gas.
10. Arrangement according to claim 9, characterised in that the gas cylinder can be connected to a hose section of a predetermined volume, which constitutes one section of the transport gas flow path.
11. Arrangement according to claim 9 or 10, characterised in that a plurality of gas cylinders containing the calibration gas in different concentrations can be connected to the transport gas flow path and individually shut off.